Ordering number: EN 5162

Monolithic Linear IC

LA6518M

2-Channel Power Operational Amplifier

Applications

The LA6518M is a 2-output power operational amplifier developed for use in consumer and industrial equipment.

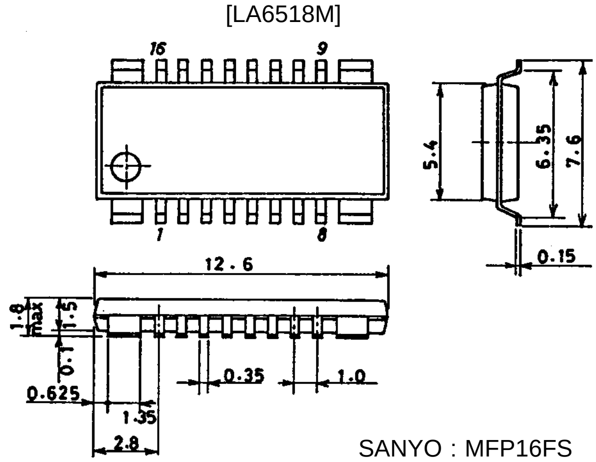
Features and Functions

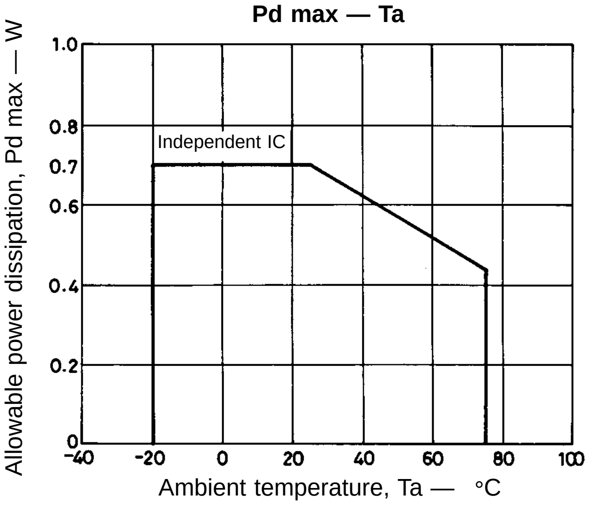
- High output current (I_O max = 0.5 A)
- High gain
- Includes current limiter
- Wide operating voltage range (±2 to ±18 V)
- Single power supply operation possible (4 to 36 V)
- Thermal shutdown function built in

Package Dimensions

unit : mm

3097-MFP16FS





Specifications

Maximum Ratings at Ta = 25 °C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC}/V_{EE}		±18	V
Differential input voltage	V_{ID}		30	V
Common-mode input voltage	V_{IN}		±15	V
Allowable power dissipation	Pd max		0.7	W
Operating temperature	Topr		–20 to +75	°C
Storage temperature	Tstg		–55 to +150	°C

Operating Conditions at Ta = 25 °C

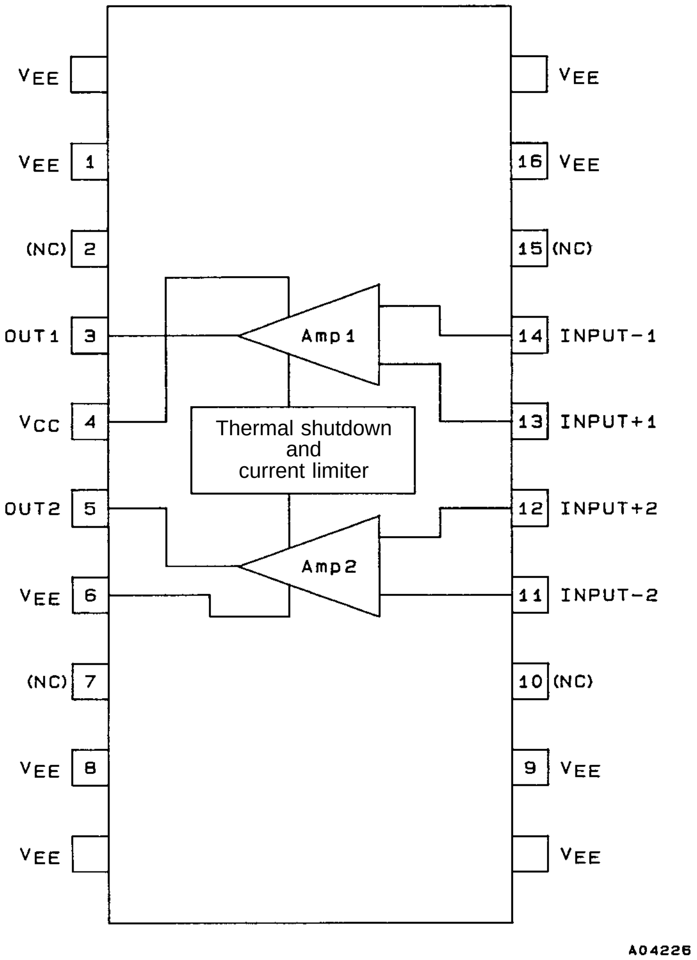
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}/V_{EE}		±2 to ±16	V

Electrical Characteristics at Ta = 25 °C, V_{CC}/V_{EE} = ±15 V

Parameter	Symbol	Conditions	min	typ	max	Unit
No-load current drain	I_{CC}			8	20	mA
Input offset voltage	V_{IO}	$R_S \leqq 10$ kΩ		2	7	mV
Input offset current	I_{IO}			10	100	nA
Input bias current	I_B			100	300	nA
Common-mode input voltage range	V_{ICM}		−14		+13	V
Common-mode signal rejection ratio	CMR		65	80		dB
Maximum output voltage	V_O	R_L = 33 Ω	±11	±12		V
Voltage gain	V_{GO}			85		dB
Slew rate	SR	G_V = 0, R_L = 33 Ω, R = 10 Ω, L = 0.1 µF		0.15		V/µs
Supply voltage rejection ratio	SVR			30	300	µV/V
Limit current (built-in type)	I_{SC}			0.5		A

• Thermal shutdown function built in.

Block Diagram and Pin Assignment

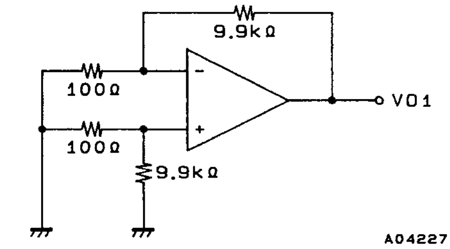


Do not use the NC pin.

Top view

Test Circuit

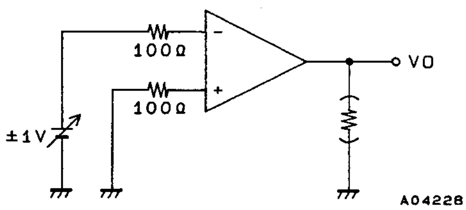
1. V_{IO}, SVRR



V_{IO} $V_{CC}/V_{EE}=\pm15V$

SVRR $\left[\begin{array}{l} V_{CC}=15V, 5V \\ V_{EE}=-5V, -15V \end{array}\right.$

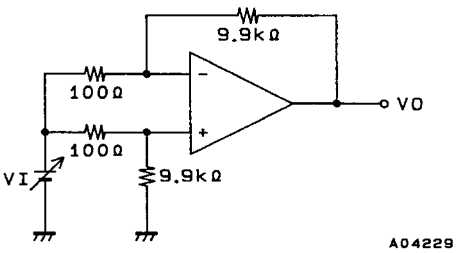
2. V_O



$V_{IO}=V_O1/100$

$\begin{array}{l} SVR(+) \\ SVR(-) \end{array} = \left| \frac{\Delta V_O1}{100k\Omega\times10V} \right|$

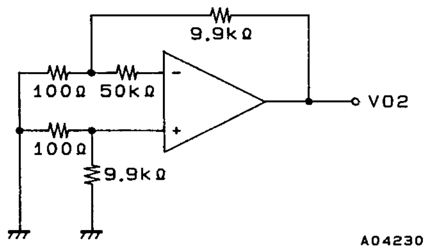
3. CMRR, V_{ICM}



CMRR $V_I=\pm7.5V$

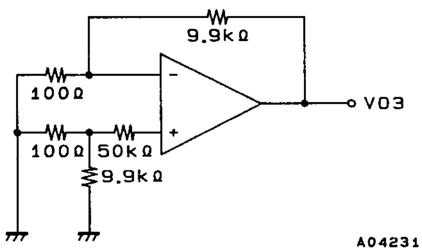
$CMR=20\log\frac{15\times100}{|\Delta V_O|}$

4. IB (−)



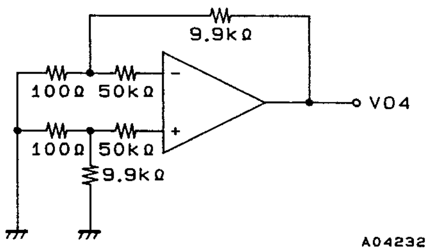
$IB(-)=\frac{|\Delta V_O2-V_O1|}{50k\Omega\times100}$

5. IB (+)



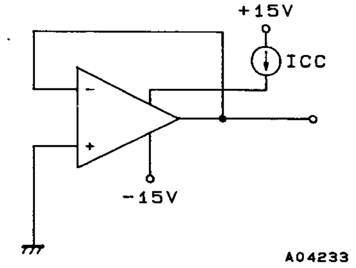
$IB(+)=\frac{|\Delta V_O3-V_O1|}{50k\Omega\times100}$

6. I_{IO}

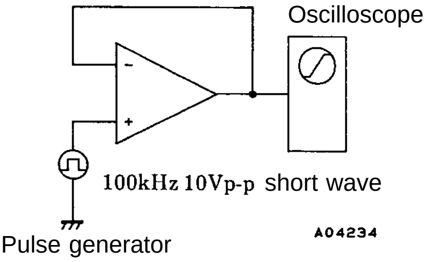


$I_{IO}=\frac{|V_O4-V_O1|}{50k\Omega\times100}$

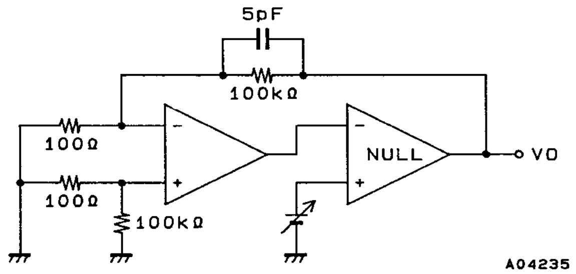
7. I_{CC}



8. SR



9. VG_O



$$V_{GO} = 20\log \frac{1000 \times 20}{\Delta V_O}$$